

Diabetes: Is An Insulin Pump Right for Your Child?

An insulin pump is an insulin delivery system for patients with diabetes. Insulin pumps are worn day and night and deliver a measured dose of insulin through an infusion set, which is a system of plastic tubing and a needle inserted under the skin (usually in the abdomen). Infusion sets remain in place for 3 to 4 days before they need to be changed.

The pump has a microprocessor programmed to dispense a continuous (basal) dose of insulin throughout the day, including additional doses (bolus dose) after meals and snacks. The patient must test blood sugars 4 to 8 times daily to ensure the pump is working correctly.

Advantages of an Insulin Pump:

- The pump provides continuous (basal) doses and programmed (bolus) doses, keeping blood sugar levels controlled. This is a process that most closely mimics the working pancreas.
- The patient has fewer injections. Needles are changed only 2 to 3 times a week.
- Pumps may use less insulin because they deliver insulin more accurately than injections.
- Most pumps have an insulin reservoir. The reservoir is used in case the wearer cannot get to more supplies as planned.
- The insulin dose is measured and continuous (but must be adjusted for periods of exercise, sickness, travel or other situations).
- This method is convenient in public. The wearer does not have to tote supplies.
- The insulin pump is discreet because it is small (about the size of a pager) and can be worn under clothing (usually at the waistband).
- Insulin pumps allow more flexibility with meal times and exercise. A child can be a little late to eat without the risk of going "low," and may not need to stop to eat before an exercise activity.

Additional Considerations:

- Families must be educated in the use and maintenance of the pump.
- Caregivers (school nurse, teacher, bus driver, daycare employees, grandparents, etc.) must be knowledgeable about pump and able to help when needed.
- Caregivers must be able to adjust the pump for periods of exercise, sickness, travel or other situations.
- Caregivers must have time to care for child's diabetes every day.
- Caregivers must understand how to measure ketones and understand what to do if ketones are present. (Ketones are a by-product made when the body burns stored fat for energy. Ketones occur in the urine when glucose levels are too high.)
- The insulin pump and supplies can be expensive.
- The needle site may become infected, causing slower insulin uptake.
- Must have a care team of doctors who offers 24-hour telephone contact.
- Needed supplies include infusion sets, cartridges for the insulin, adapters, batteries, battery covers and blood sugar monitoring supplies.
- The pump may malfunction without the child knowing it.
- The child must test blood sugars every 3 to 4 hours.
- The child must be willing to wear the pump.

It is important to evaluate the pros and cons of using an insulin pump. Each family situation is different. Evaluate your child's lifestyle and needs; consult with your diabetes health care team to see if an insulin pump may be right for your child.